

# Stat 451 Assignment #1

1) a) Tally Sheet

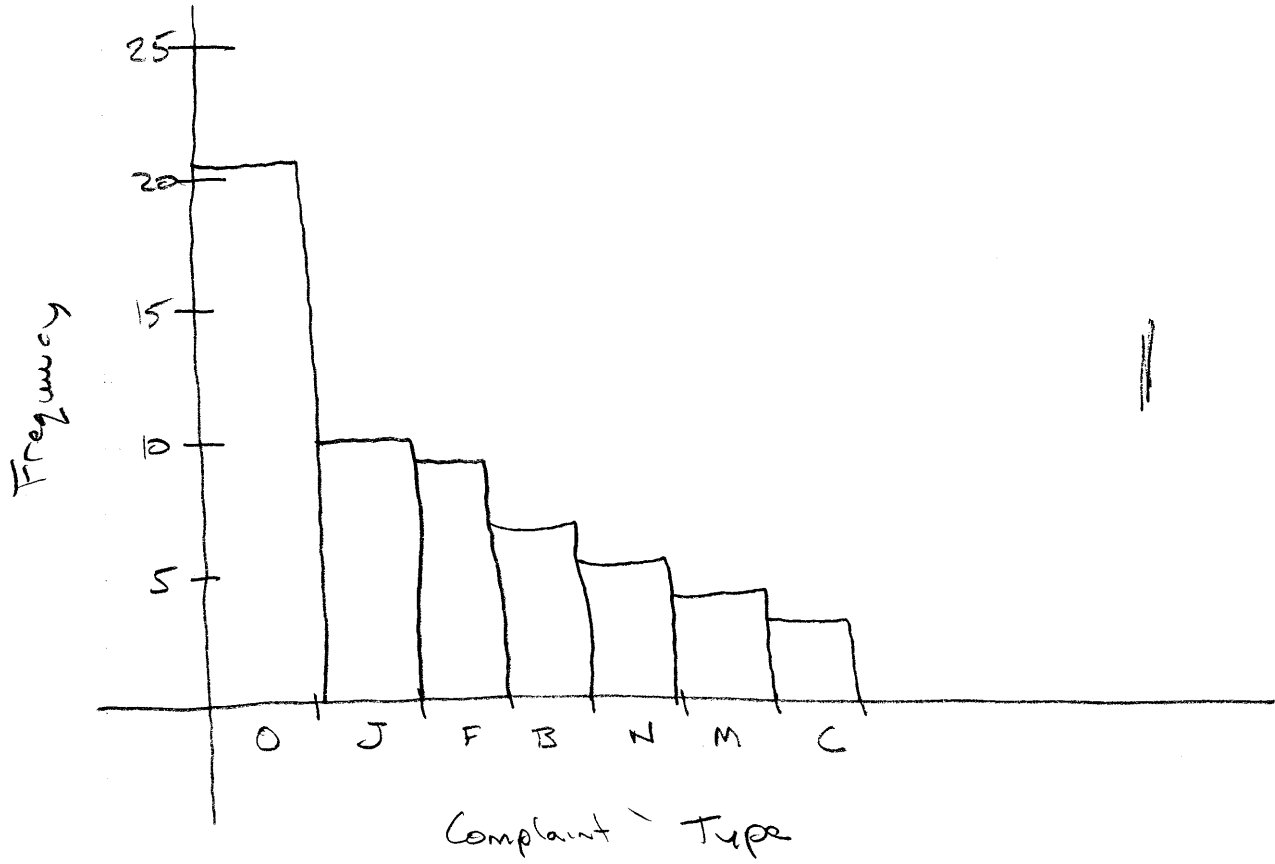
Joint Swelling : IIII IIII	10
Fatigue : IIII IIII	9
Back pain : IIII "	7
Muscle Weakness : IIII	4
Coughing : III	3
Nose Running : IIII I	6
Other : IIII IIII IIII IIII I	21

Frequency Dis table

Complaint	Freq	Rel. Freq
Joint S	10	.167
Fatigue	9	.15
Back pain	7	.1167
Muscle weakness	4	.0667
Coughing	3	.05
Nose Running	6	.10
Other	21	.35
Total	60	1.00

iii Pareto Chart

Health Complaints



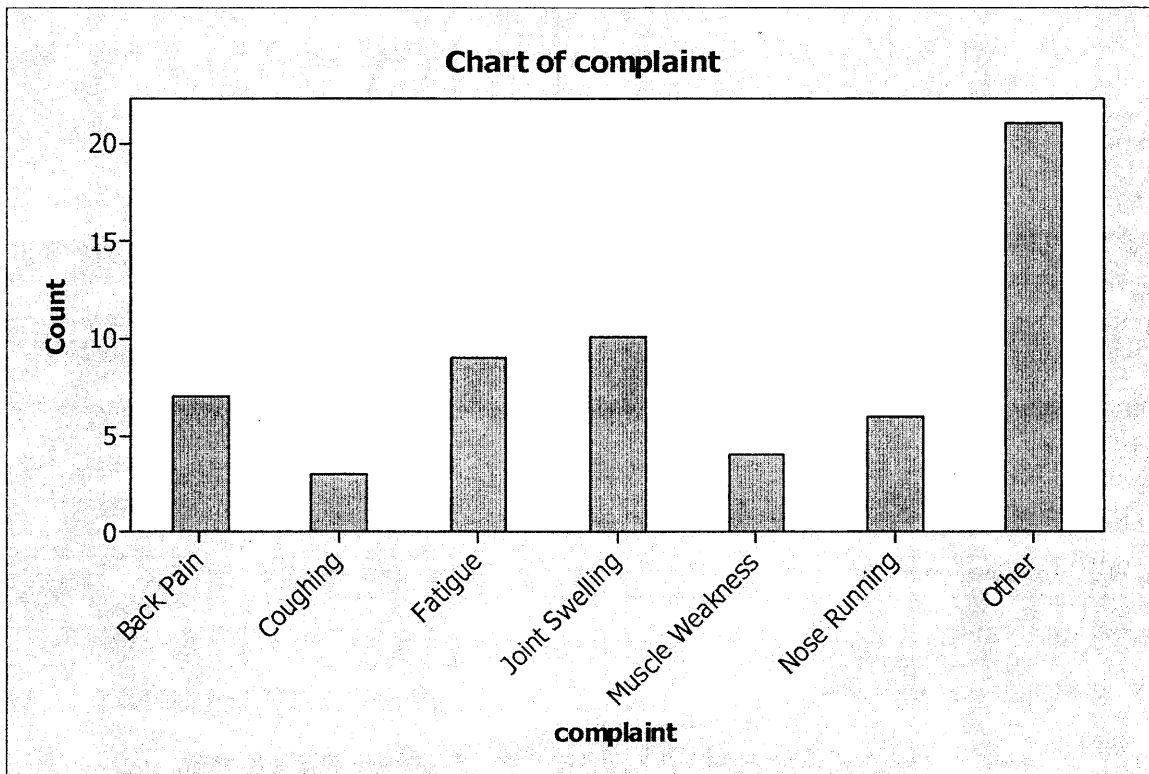
16)

# Minitab Project Report

## Chart of Frequency

### Tally for Discrete Variables: complaint

complaint	Count	CumCnt	Percent	CumPct
Back Pain	7	7	11.67	11.67
Coughing	3	10	5.00	16.67
Fatigue	9	19	15.00	31.67
Joint Swelling	10	29	16.67	48.33
Muscle Weakness	4	33	6.67	55.00
Nose Running	6	39	10.00	65.00
Other	21	60	35.00	100.00
N=	60			



2)



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3a, b

	<u>Freq</u>	<u>Cum Freq</u>	<u>Rel Freq</u>	<u>Cum Rel Freq</u>
549.5 - 649.5	4	4	17.39	17.39
649.5 - 749.5	6	10	26.09	43.48
749.5 - 849.5	10	20	43.48	86.96
849.5 - 949.5	2	22	8.70	95.66
949.5 - 1049.5	0	22	0	95.66
<u>1049.5 - 1149.5</u>	<u>1</u>	<u>23</u>	4.35	100.00
Total	23	<del>23</del>		

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3d)

### Michelson's Supplementary Speed of Light Data

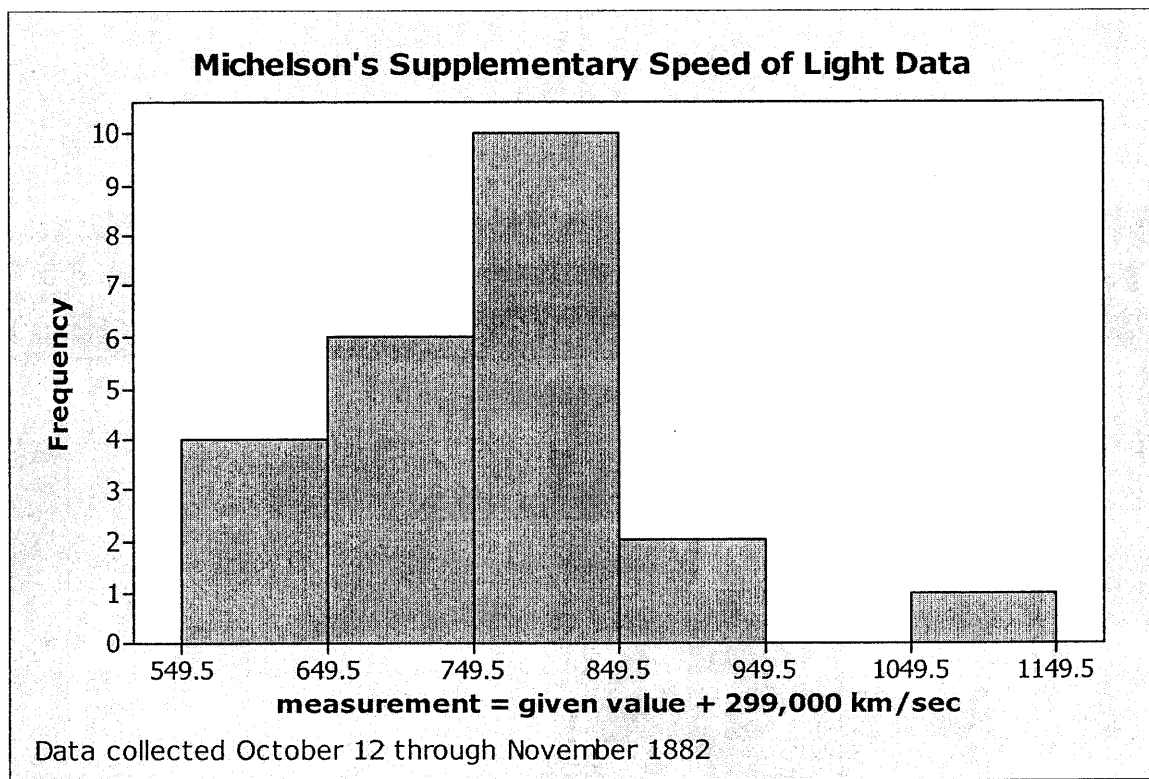
Collected October 12 through November 1882

The twenty-three ordered observations are recorded as

573, 578, 599, 611, 682, 696, 711, 723, 748, 748, 772, 774, 778, 781  
796, 796, 797, 809, 816, 820, 851, 883, 1051,

where an actual measurement = given value + 299,000 km/sec. For example, the first measurement is  $573 + 299,000 = 299,573$  km/sec.

Consider the histogram drawn below.



1. What percentage of the 23 measurements are **at least** 299,750 km/sec?

~~23~~ →  $13/23 \approx 56\%$

2. What is the class width for each interval?

100km/hr

3. What are the class boundaries of the modal class?

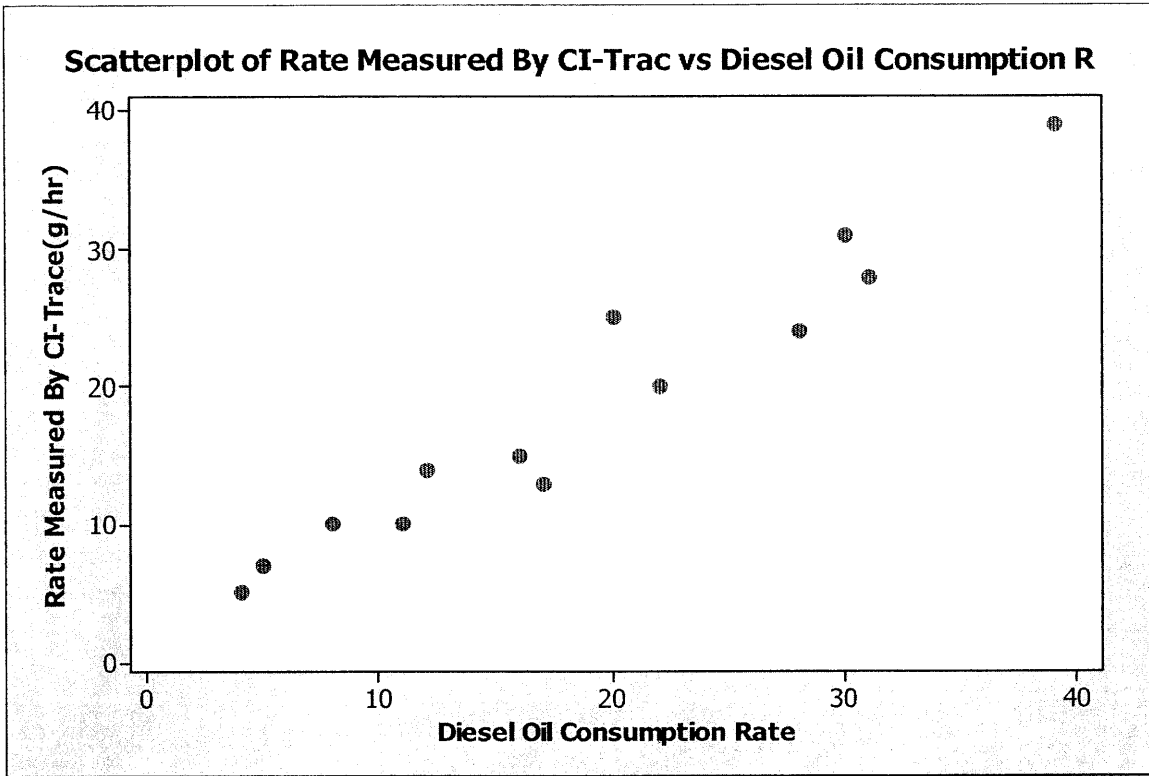
749.5-849.5

4. class mark =  $\frac{749.5 + 849.5}{2} = 799.5$

5.  $750 - 849$

6.  $\frac{10}{23} \approx .4348$

5.



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